07 - ELECTRICAL - TRAFFIC MONITORING STATIONS INDEX OF DRAWINGS

DRAWING NUMBER	DRAWING TITLE	DRAWING NUMBER	DRAWING TITLE	
TMS-01	INDEX OF DRAWINGS			
TMS-02	LEGEND AND GENERAL NOTES			
TMS-03	SITE PLAN - TRAFFIC MONITORING STATION FAIR-303			
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TMS-05	TYPICAL LOOP DETECTOR SAW CUT AND LEAD-IN			
TMS-06	CONCRETE HANDHOLE & APPURTENANCES			

THE DESIGN APPEARS TO CONFORM TO APPLICABLE CRITERIA. APPROVAL IS NOT TO BE CONSTRUED TO MEAN THAT ALL ASPECTS OF THE DESIGN HAVE BEEN PERSONALLY CHECKED BY THE UNDERSIGNED.

TRANSPORTATION PRINCIPAL ENGINEER

50-219

TMS-01

07.01

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				THE INFORMATION, INCLUDING ESTIMATED	
				QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED	CHECK
				INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE	
				THE CONDITIONS OF ACTUAL QUANTITIES	
				OF WORK WHICH WILL BE REQUIRED.	
REV.	DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/18/2015	1

IGNER/DRAFTER: ZR	S
CKED BY: EWM	
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STATE OF CONNECTICUT

DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_IDX_0050_0219_TMS-01.dgn

SIGNATURE/ BLOCK:	Р
OFFICE OF ENGINEERING	
APPROVED BY:	
Amy N.O.	

PAVEMENT PRESERVATION
ON INTERSTATE 95

BRIDGEPORT, FAIRFIELD
DRAWING TITLE:

INDEX OF DRAWINGS

TRAFFIC MONITORING STATION LEGEND				
SYMBOL	DESCRIPTION			
\bowtie	TRAFFIC CONTROLLER CABINET AND FOUNDATION			
	REMOVE TRAFFIC CONTROLLER CABINET AND FOUNDATION			
	CONCRETE HANDHOLE - TYPE III			
	EXISTING CONCRETE HANDHOLE			
	REMOVE EXISTING CONCRETE HANDHOLE			
	RIGID METAL CONDUIT/LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT			
4-4-4-4-	SAW CUT			
•	WOOD POLE			
	LIGHT STANDARD			
•====	OVERHEAD SIGN			
	CANTILEVER SIGN			
0 0	SIDE MOUNTED SIGN			
	LOOP DETECTOR			
	PIEZO CABLE SENSOR (TYPE 2)			
	PIEZO CABLE SENSOR (TYPE 1)			
	SOLAR POWER SYSTEM			

GENERAL NOTES:

- 1. ALL CABINETS TO BE FIELD LOCATED OR AS SHOWN ON PLAN. INSTALL CONCRETE SIDEWALK ON CABINET DOOR SIDE PER STANDARD INSTALLATION DETAIL.
- 2. LOOP AND PIEZO INSTALLATION SHALL COMPLY WITH SECTION 10.00 GENERAL CLAUSES FOR HIGHWAY ILLUMINATION AND TRAFFIC SIGNAL PROJECTS.
- 3. SINGLE CONDUCTORS SHALL BE STRANDED COPPER, INSULATION TYPE THWN AND RATED FOR 600 VOLTS.
- 4. THE REMOVAL OF BRUSH IS TO BE INCLUDED UNDER THE ITEM TRAFFIC CONTROLLER CABINET BASE MOUNTED.
- 5. RIGID METAL CONDUIT IN CONCRETE HANDHOLES SHALL BE BONDED WITH NO. 8 BARE COPPER GROUNDING CONDUCTOR.
- 6. ANY UNUSED CONDUIT SHALL BE CAPPED WITH A MALLEABLE IRON CAP.
- 7. THE CONTRACTOR SHALL PROVIDE THE STATE A COMPLETE SET OF REPRODUCIBLE AS-BUILT DRAWINGS CLEARLY INDICATING ANY DEVIATIONS FROM THE DESIGN AS SHOWN ON THESE DRAWINGS.
- 8. THE CONTRACTOR SHALL SCHEDULE WORK TO AVOID OTHER HIGHWAY PROJECTS IN AFFECTED WORK AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH OTHER HIGHWAY PROJECTS IN THE AREA.
- 9. THE STATE SHALL RESERVE THE RIGHT TO PRIORITIZE SITES AND SCHEDULE SITE CONSTRUCTION SEQUENCE TO AVOID CONFLICTS WITH OTHER HIGHWAY PROJECTS.
- 10. ALL HANDHOLES SHALL BE LOCATED APPROXIMATELY 4' OFF EDGE OF ROAD. HANDHOLES SHALL NOT BE INSTALLED DIRECTLY UNDER GUIDE RAIL OR ON TOP OF UNDERGROUND LIGHTING CIRCUITRY AND INCIDENT MANAGEMENT SYSTEM CONDUIT.
- 11. THE CABINET DOOR SHALL BE LOCATED SO THE DETECTORS AND SENSORS ARE VISIBLE WHILE FACING THE CABINET OPENING.
- 12. ALL TRAVEL LANES ARE 12' UNLESS NOTED.
- 13. ALL TEMPORARY REMOVAL AND/OR RELOCATION OF GUIDE RAIL OR FENCING SHALL BE CONSIDERED INCLUDED IN THE GENERAL COST OF THE WORK.

BRIDGEPORT, FAIRFIELD

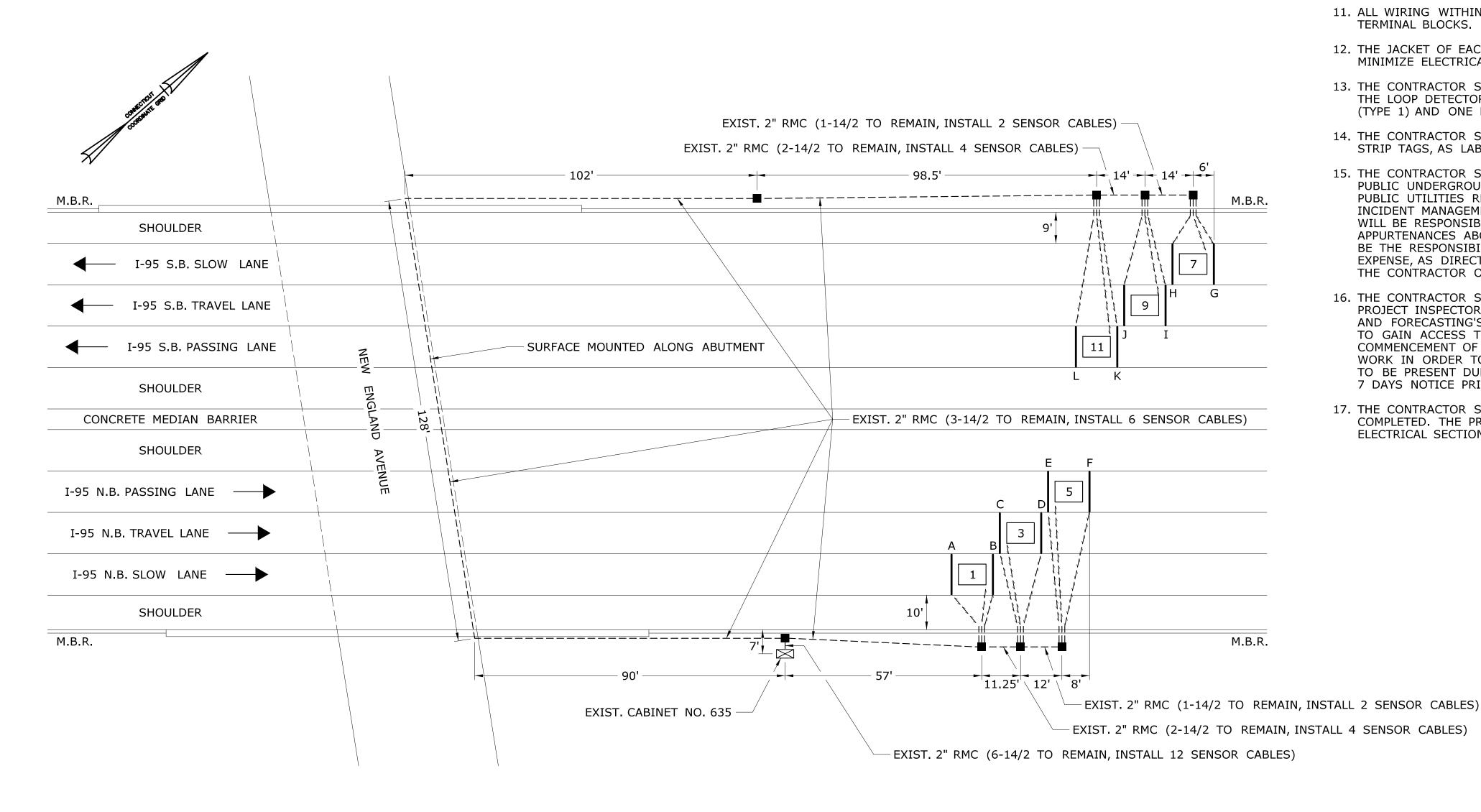
LEGEND AND GENERAL NOTES

50-219
DRAWING NO.
TMS-02

07.02

				DESIGNER/DRAFTER:	CONNECTION	SIGNATURE/ BLOCK:	PROJECT TITLE:
			THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS	CHECKED BY:	STATE OF CONNECTICUT	OFFICE OF ENGINEERING	PAVEMENT PRESERVATION
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REV. DATE	REVISION DESCRIPTION	SHEET NO.	Plotted Date: 12/18/2015	-	Filename:\FD_MSH_DET_0050_0219_TMS-02.dgn	- M.D.	

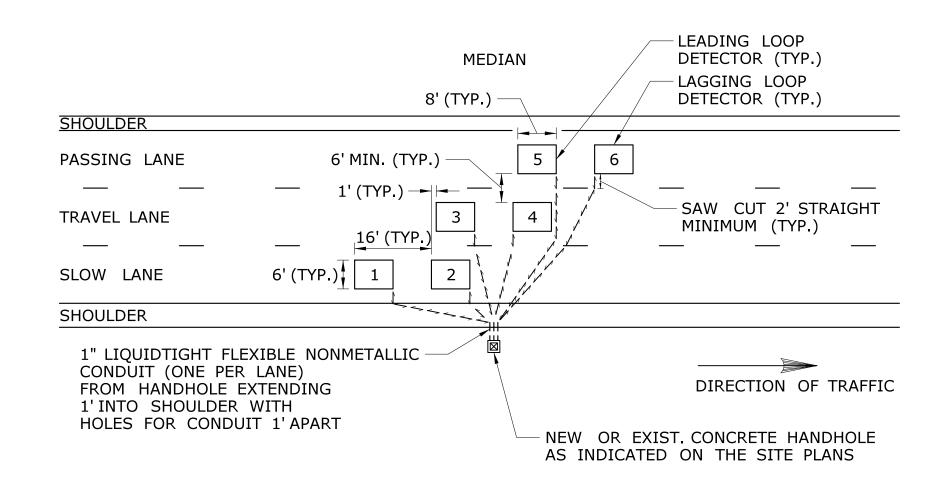
	LEGEND				
SYMBOL	DESCRIPTION				
\bowtie	TRAFFIC CONTROLLER CABINET AND FOUNDATION				
	EXISTING CONCRETE HANDHOLE				
	RIGID METAL CONDUIT/LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT				
	SAW CUT				
	LOOP DETECTOR				
	PIEZO CABLE SENSOR (TYPE 1)				



NOTES:

- 1. THE CONTRACTOR SHALL REPLACE THE LOOP DETECTORS AND PIEZO SENSORS AT EXISTING TRAFFIC MONITORING STATION FAIR-303 IN THE TOWN OF FAIRFIELD, WHICH WILL BE DISTURBED AS A RESULT OF MILLING AND PAVING ON I-95.
- 2. EXISTING CABINET, HANDHOLES, AND 14/2 CABLES SHALL BE REUSED.
- 3. EXISTING CONDUIT SHALL BE REUSED, EXCEPT FOR CONDUIT STUBBING INTO ROADWAY. EXISTING CONDUIT STUBBING INTO ROADWAY SHALL BE REMOVED FROM HANDHOLES TO EDGE OF PAVEMENT TO MAKE ROOM FOR THE INSTALLATION OF NEW CONDUIT. NEW 1" LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT SHALL BE INSTALLED FROM HANDHOLES 1' INTO SHOULDER.
- 4. EXISTING NO. 14 LOOP WIRES SHALL BE REMOVED FROM HANDHOLES.
- 5. EXISTING PIEZO SENSOR CABLES SHALL BE REMOVED FROM CONDUIT, HANDHOLES, AND CABINET.
- 6. EXISTING NO. 8 BARE COPPER GROUNDING CONDUCTOR SHALL BE REMOVED FROM HANDHOLES.
- 7. EXISTING NO. 14 LOOP WIRES SHALL BE DISCONNECTED FROM 14/2 CABLES IN HANDHOLES AND EXISTING PIEZO SENSOR CABLES SHALL BE DISCONNECTED FROM TERMINAL BLOCKS IN CABINET PRIOR TO MILLING OF PAYEMENT
- 8. THE CONTRACTOR SHALL INSTALL TWELVE TYPE 1 PIEZO SENSORS ALONG WITH PIEZO CABLE FROM SENSOR TO CABINET.
- 9. THE CONTRACTOR SHALL INSTALL SIX 6' X 8' LOOP DETECTORS. LOOP DETECTORS SHALL BE INSTALLED IN FINAL PAVEMENT COURSE AND SPLICED TO EXISTING 14/2 CABLES IN EXISTING HANDHOLES.
- 10. EXISTING HANDHOLES SHALL HAVE RIGID METAL CONDUIT AND HANDHOLE COVERS BONDED WITH A NEW NO. 8 BARE COPPER GROUNDING CONDUCTOR.
- 11. ALL WIRING WITHIN THE CABINET SHALL BE NEAT, FIRM, LABELED AND CONNECTED TO THE APPROPRIATE TERMINAL BLOCKS.
- 12. THE JACKET OF EACH PIEZO SENSOR CABLE SHALL BE REMOVED FROM ONLY THE LAST 2" AT TERMINALS TO MINIMIZE ELECTRICAL INTERFERENCE AND CABLE SHALL BE CONNECTED TO THE TERMINALS USING SPADE LUGS.
- 13. THE CONTRACTOR SHALL CLEARLY MARK EACH LOOP DETECTOR CABLE AND PIEZO SENSOR CABLE TO IDENTIFY THE LOOP DETECTOR AND PIEZO SENSOR TO WHICH IT IS CONNECTED, AS STATED IN THE "TWO PIEZOS (TYPE 1) AND ONE LOOP PER LANE" DETAIL ON DRAWING NO. TMS-04 AND LABELED ON THE PLAN.
- 14. THE CONTRACTOR SHALL PROPERLY IDENTIFY ALL LOOP DETECTORS AND PIEZO SENSORS AT TERMINALS WITH STRIP TAGS, AS LABELED ON THE PLAN.
- 15. THE CONTRACTOR SHALL NOTIFY "CALL BEFORE YOU DIG," TELEPHONE: 1-800-922-4455 FOR THE LOCATION OF PUBLIC UNDERGROUND FACILITIES IN ACCORDANCE WITH SECTION 16-345 OF THE REGULATIONS OF THE PUBLIC UTILITIES REGULATORY AUTHORITY. IN AREAS ADJACENT TO UNDERGROUND LIGHTING CIRCUITRY AND INCIDENT MANAGEMENT SYSTEM (IMS), THE CONTRACTOR IS REQUIRED TO HAND EXCAVATE. THE CONTRACTOR WILL BE RESPONSIBLE FOR LOCATING, VERIFYING THE LOCATION OF, AND PROTECTING ALL LIGHTING AND IMS APPURTENANCES ABOVE AND BELOW GROUND. ANY DAMAGE CAUSED TO THE LIGHTING SYSTEM OR IMS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR, AND WILL BE REPLACED BY THE CONTRACTOR AT HIS OWN EXPENSE, AS DIRECTED BY THE ENGINEER. MARK-OUT OF THE LIGHTING CIRCUITRY AND IMS WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY.
- 16. THE CONTRACTOR SHALL NOTIFY THE PROJECT INSPECTOR WHEN ACCESS TO THE CABINET IS REQUIRED. THE PROJECT INSPECTOR SHALL CONTACT MR. JOSEPH BRUSZNICKI OF CONNDOT'S OFFICE OF SYSTEMS MODELING AND FORECASTING'S TRAFFIC MONITORING SECTION AT TELEPHONE NO. 860-594-2942 FOR THE CONTRACTOR TO GAIN ACCESS TO THE CABINET. THE PROJECT INSPECTOR SHALL INFORM MR. BRUSZNICKI OF THE COMMENCEMENT OF LOOP DETECTOR AND PIEZO SENSOR INSTALLATION 7 DAYS PRIOR TO THE START OF WORK IN ORDER TO PROVIDE AN OPPORTUNITY FOR A REPRESENTATIVE OF THE TRAFFIC MONITORING SECTION TO BE PRESENT DURING THE INSTALLATION. ALSO, THE PROJECT INSPECTOR SHALL PROVIDE MR. BRUSZNICKI 7 DAYS NOTICE PRIOR TO DISTURBING THE SITE.
- 17. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER WHEN ALL TRAFFIC MONITORING STATION WORK IS COMPLETED. THE PROJECT ENGINEER SHALL CONTACT MR. ZOLTAN RIGO OF CONNDOT'S FACILITIES DESIGN ELECTRICAL SECTION AT TELEPHONE NO. 860-594-2780 TO SCHEDULE A SEMI-FINAL INSPECTION.

STATE OF CONNECTICUT **FAIRFIELD** ZR 50-219 THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED PAVEMENT PRESERVATION OFFICE OF ENGINEERING EWM INVESTIGATIONS BY THE STATE AND IS **TMS-03** IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED. **DEPARTMENT OF TRANSPORTATION** ON INTERSTATE 95 SITE PLAN - TMS Amy M.D. NOT TO SCALE 07.03 **FAIR-303** REVISION DESCRIPTION SHEET NO. Plotted Date: 12/18/2015 Filename: ...\FD_MSH_TMS_0050_0219_TMS-03.dgn REV. DATE



- 1. LOOP DETECTORS TO BE 6' X 8', 4 TURNS EACH, UNLESS NOTED.
- 2. LOOP DETECTORS TO BE INSTALLED IN THE CENTER OF EACH LANE, UNLESS NOTED.
- 3. LOOP DETECTORS TO BE FIELD LOCATED SO THAT NO SAW CUTS WILL BE MADE THROUGH CONCRETE EXPANSION JOINTS OR POOR PAVEMENT.
- 4. ALL SAW CUT HOME RUNS SHALL BE A MINIMUM 1' APART.
- 5. LOOP CABLES SHALL HAVE 2' OF SLACK IN HANDHOLES.

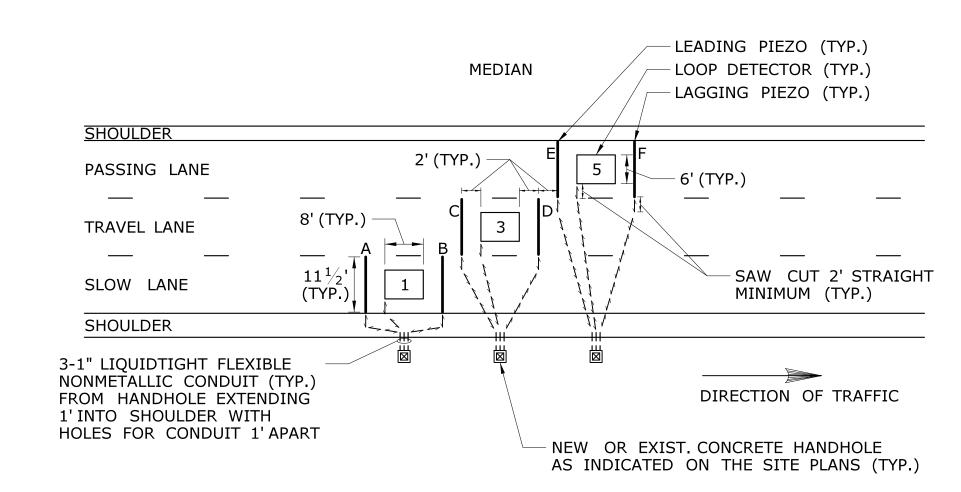
 6. ALL LEAD-IN WIRE PAIRS SHALL BE TWISTED TOGETHER FIVE (5)
- 6. ALL LEAD-IN WIRE PAIRS SHALL BE TWISTED TOGETHER FIVE (5) TURNS PER FOOT WHEN IN CONDUIT.
- 7. ALL LOOP DETECTOR LEADS SHALL BE COLOR CODED WITH TAPE IN CABINET, HANDHOLES, AND JUNCTION BOXES AS FOLLOWS:

 LEADING LOOPS = 1 BAND OF TAPE

 LAGGING LOOPS = 2 BANDS OF TAPE

TAPE COLOR
RED
BLUE
ORANGE
YELLOW
BROWN
PURPLE
GRAY
PINK

TWO LOOPS PER LANE



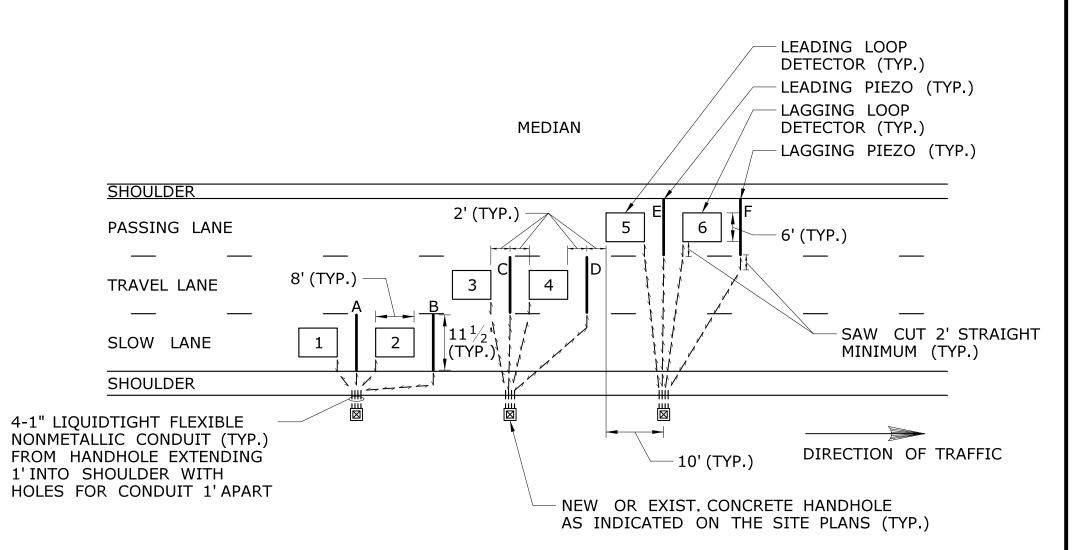
- 1. LOOP DETECTORS TO BE 6' X 8', 4 TURNS EACH, UNLESS NOTED.
- 2. LOOP DETECTORS AND PIEZO SENSORS TO BE INSTALLED IN THE CENTER OF EACH LANE, UNLESS NOTED.
- 3. LOOP DETECTORS AND PIEZO SENSORS TO BE FIELD LOCATED SO THAT NO SAW CUTS WILL BE MADE THROUGH CONCRETE EXPANSION JOINTS OR POOR PAVEMENT.
- 4. ALL SAW CUT HOME RUNS SHALL BE A MINIMUM 1' APART.
- 5. LOOP CABLES SHALL HAVE 2' OF SLACK IN HANDHOLES.
- 6. ALL LEAD-IN WIRE PAIRS SHALL BE TWISTED TOGETHER FIVE (5) TURNS PER FOOT WHEN IN CONDUIT.
- 7. ALL LOOP DETECTOR & PIEZO SENSOR LEADS SHALL BE COLOR CODED WITH TAPE IN CABINET, HANDHOLES, AND JUNCTION BOXES AS FOLLOWS:

 LEADING LOOPS & PIEZOS = 1 BAND OF TAPE

LAGGING LOOPS & PIEZOS = 2 BANDS OF TAPE

LOOP NO.	PIEZO	TAPE COLOR
1, 2	А, В	RED
3, 4	C, D	BLUE
5, 6	E, F	ORANGE
7, 8	G, H	YELLOW
9, 10	I, J	BROWN
11, 12	K, L	PURPLE
13, 14	M, N	GRAY
15, 16	O, P	PINK

TWO PIEZOS (TYPE 1) AND ONE LOOP PER LANE



- 1. LOOP DETECTORS TO BE 6' X 8', 4 TURNS EACH, UNLESS NOTED.
- 2. LOOP DETECTORS AND PIEZO SENSORS TO BE INSTALLED IN THE CENTER
- OF EACH LANE, UNLESS NOTED.

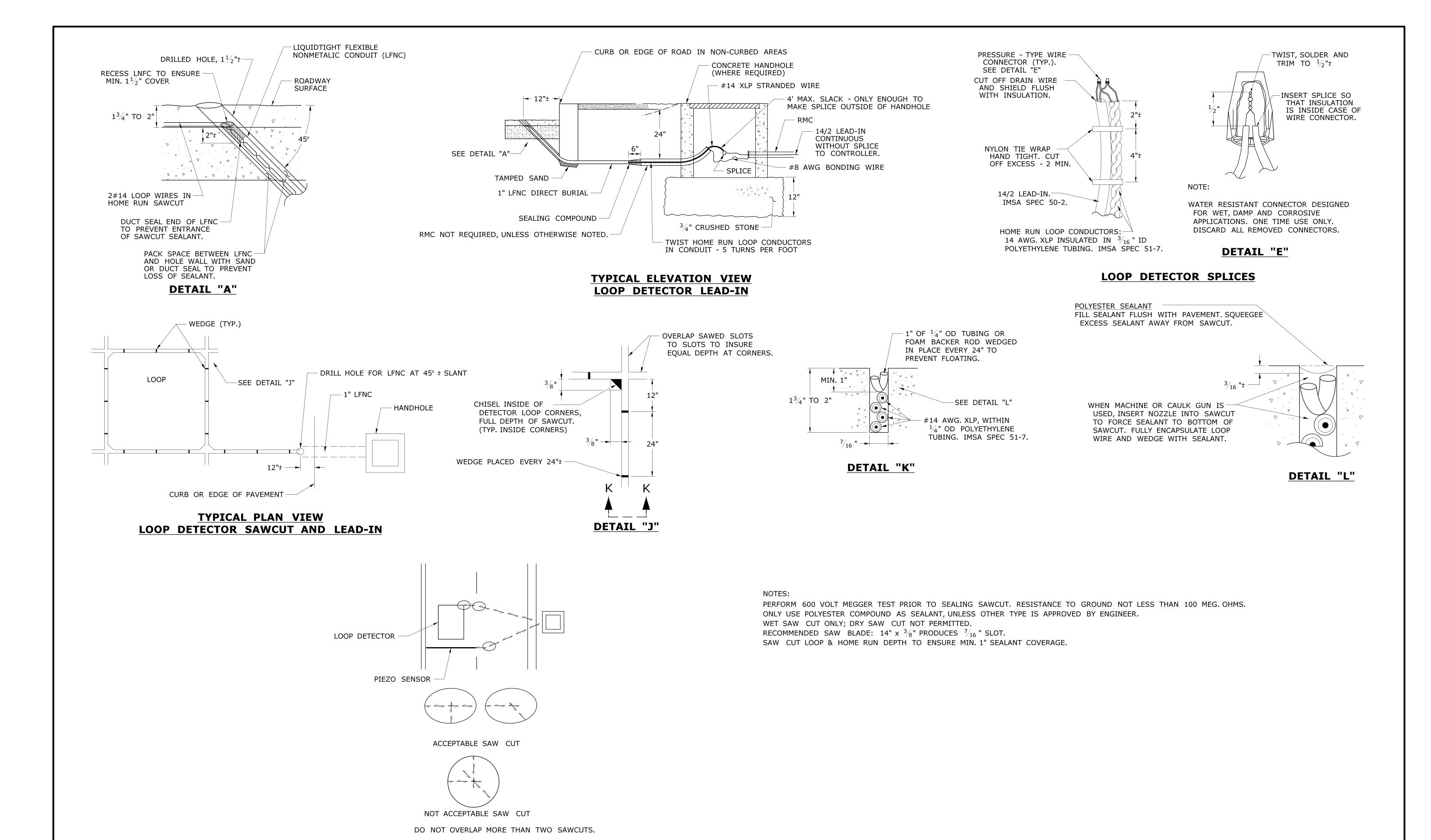
 3. LOOP DETECTORS AND PIEZO SENSORS TO BE FIELD LOCATED SO THAT NO SAW CUTS
- WILL BE MADE THROUGH CONCRETE EXPANSION JOINTS OR POOR PAVEMENT.
- 4. ALL SAW CUT HOME RUNS SHALL BE A MINIMUM 1' APART.
- 5. LOOP CABLES SHALL HAVE 2' OF SLACK IN HANDHOLES.
 6. ALL LEAD-IN WIRE PAIRS SHALL BE TWISTED TOGETHER FIVE (5) TURNS PER FOOT
- WHEN IN CONDUIT.
- 7. ALL LOOP DETECTOR & PIEZO SENSOR LEADS SHALL BE COLOR CODED WITH TAPE IN CABINET, HANDHOLES, AND JUNCTION BOXES AS FOLLOWS: LEADING LOOPS & PIEZOS = 1 BAND OF TAPE

LAGGING LOOPS & PIEZOS = 2 BANDS OF TAPE

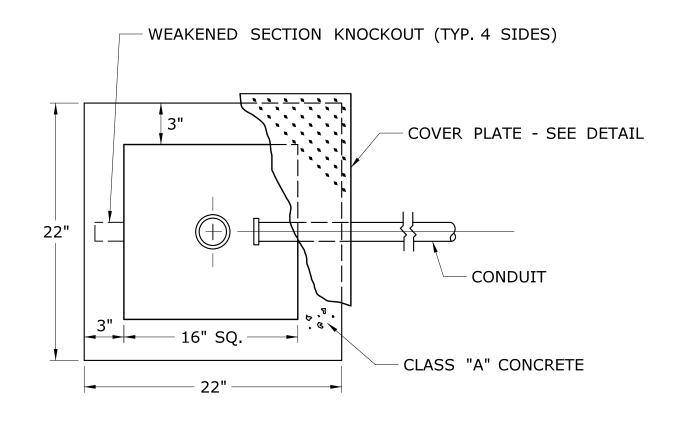
LOOP NO.	PIEZO	TAPE COLOR
1, 2	A, B	RED
3, 4	C, D	BLUE
5, 6	E, F	ORANGE
7, 8	G, H	YELLOW
9, 10	I, J	BROWN
11, 12	K, L	PURPLE
13, 14	M, N	GRAY
15, 16	O, P	PINK

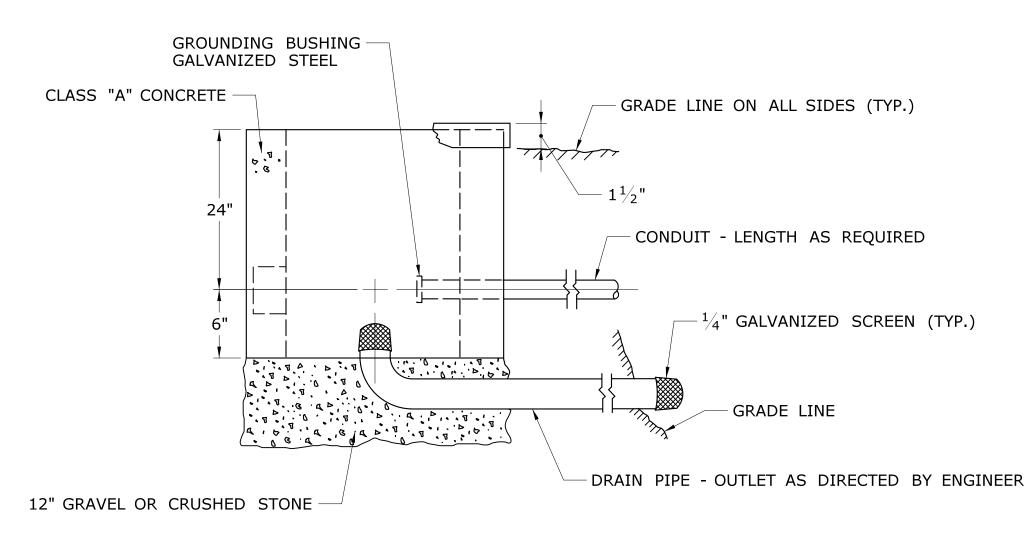
TWO PIEZOS (TYPE 1) AND TWO LOOPS PER LANE

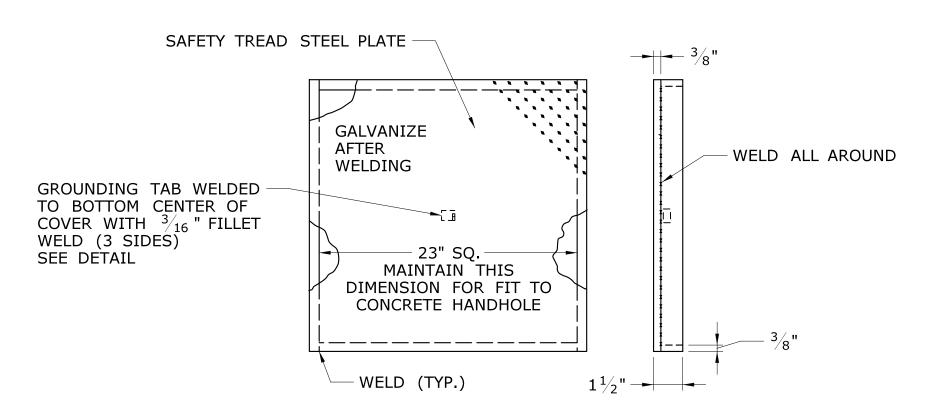
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	THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.	DEPARTMENT OF TRANSPORTATION	APPROVED BY:	ON INTERSTATE 95	DRAWING TITLE:	TMS-04
REV. DATE REVISION DESCRIPTION	SHEET NO. Plotted Date: 12/18/2015	TO SCALE Filename:\FD_MSH_DET_0050_0219_TMS-04.dan	Amy M.D.		TYPICAL LAYOUT DETAIL	07.04



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OF WORK WHICH WILL BE REQUIRED.	NOT TO SCALE		Amy N.D.	ON INTERSTATE 95	TYPICAL LOOP DETECTOR SAW CUT AND LEAD-IN	
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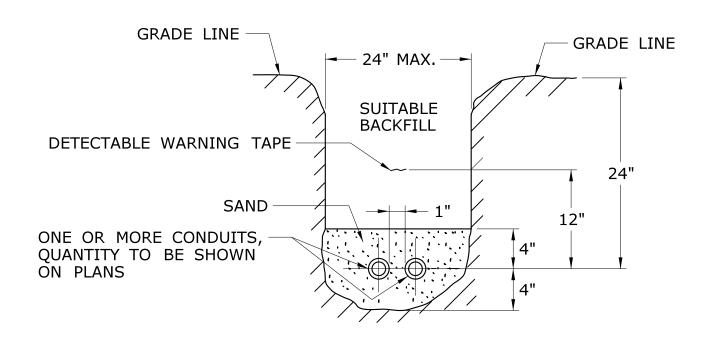




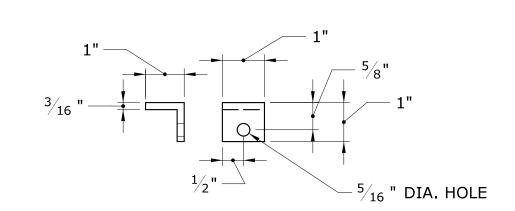


COVER PLATE

CONCRETE HANDHOLE - TYPE III







STEEL GROUNDING TAB

NOTE:

1. ATTACH 6' LENGTH OF NO. 8 GROUND WIRE
TO GROUNDING TAB WITH ONE HOLE LUG,

1/4"-20 x 3/4" LG. SST HEX HEAD BOLT,
AND SST FLAT WASHER. ATTACH FREE END
OF GROUND WIRE TO NO. 8 BARE GROUND
WIRE IN HANDHOLE.

2. GROUT AROUND ALL CONDUITS.

THE INFORMATION, INCLUDING ESTIMATED	DESIGNER/DRAFTER: ZR	CONNECTICITY (S)	SIGNATURE/ BLOCK:	PROJECT TITLE:	BRIDGEPORT, FAIRFIELD	PROJECT NO. 50-219
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OF WORK WHICH WILL BE REQUIRED.	NOT TO SCALE	DEPARTMENT OF TRANSPORTATION	Amy M.D.	ON INTERSTATE 95	CONCRETE HANDHOLE & APPURTENANCES	SHEET NO. 07.06
REV. DATE REVISION DESCRIPTION SHEET NO. Plotted Date: 12/18/2015		Filename:\FD_MSH_DET_0050_0219_TMS-06.dgn	l		& APPORTENANCES	